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Atlantic White-Cedar

(*Chamaecyparis thyoides*)

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Atlantic white-cedar is a tree of medium size that grows in scattered stands of limited extent in the swamps near the eastern coast of the United States.

The wood has a high value for special uses, such as small-boat construction and pails and tubs, because of its light weight, durability, small shrinkage, and tendency to dent instead of splinter under a blow. Small trees down to 3 inches in diameter often find a ready market as bean poles, oyster stakes, grape stakes, etc. The continued demand for Atlantic white-cedar for many years past has resulted in greatly depleting the original stands and in bringing about an increasing scarcity and higher prices for the wood. In some cases the cut-over stands have reproduced and have yielded a second crop. Many areas, however, have been so thoroughly burned over after the original stand was cut that nearly all chance for reproduction has been lost.

Nomenclature.—Atlantic white-cedar is frequently known in the South as juniper and as southern white-cedar. Other names sometimes used are white-cedar, swamp cedar, and post cedar.

Distribution and growth.—Atlantic white-cedar grows along the Atlantic seaboard from Maine to northern Florida and from there westward along the Gulf coast to Louisiana (fig. 1). It is strictly a swamp tree and occurs principally along the edges of fresh-water swamps and along the sandy beds of small streams or on sandy flats subject to frequent overflow.

The heaviest commercial stands occurred originally in Virginia and North Carolina, especially in the Dismal Swamp and the swamps draining into Albermarle and Pamlico Sounds; in South Carolina; in southeastern New Jersey; in the vicinity of Mobile Bay, Alabama; and in the swamp regions of western Florida. Much cutting has been done in these regions, but they are still the principal sources of supply.

Atlantic white-cedar tends to grow in pure, dense, and even-aged stands known as "juniper glades," and lends itself readily to forest management. It is tolerant of shade when young but later requires sunlight if it is to survive. Under favorable conditions such as are met with in the Dismal Swamp, these trees reach a diameter of 9 to 11 inches and a height of 50 to 70 feet in 50 years and form stands that produce about 65 cords to the acre. Mature trees have been reported 5 feet in diameter and 120 feet high. In New Jersey cedar swamps, where conditions are less favorable, trees 50 years old are generally 20 to 50 feet high. Because of its thin bark and inflammable leaves Atlantic white-cedar is very susceptible to damage by fire.

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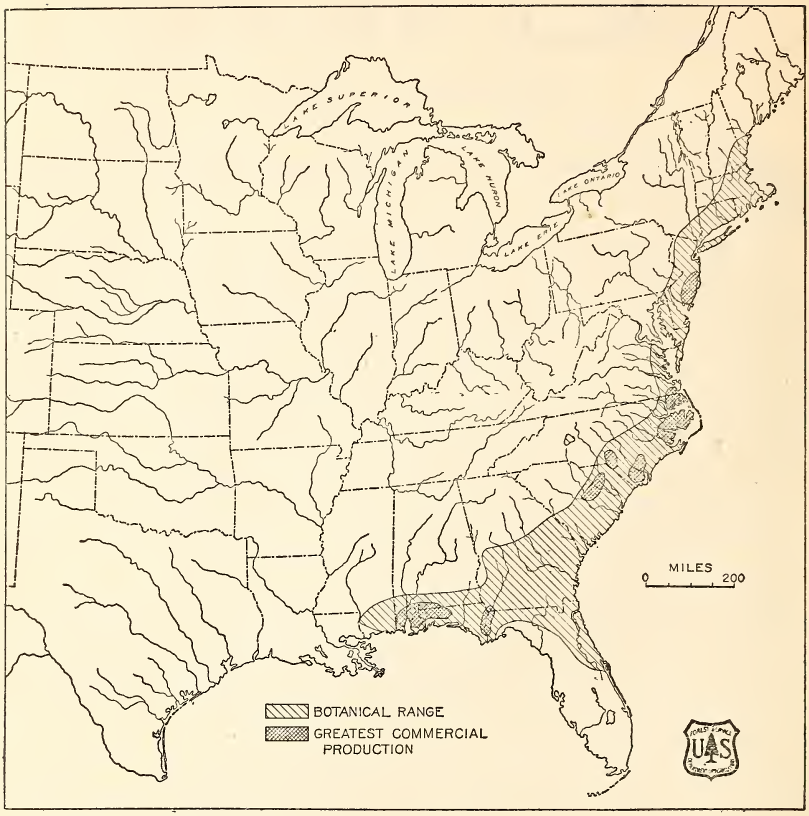

Figure 1.—Range of Atlantic white-cedar (*Chamaecyparis thyoides*)

Supply.—No estimate of the total stand of Atlantic white-cedar is available. The amount in the swamp forests of southern New Jersey (50,000 acres) was placed at 100,000,000 board feet of merchantable timber in 1922.[1] Considerable cutting has been done since this estimate was made. Possibly 40,000,000 board feet of Atlantic white-cedar still remains in New Jersey. In the Dismal Swamp region of Virginia the extent of the Atlantic white-cedar forests in 1923 was placed at 337,000 acres.[2] Possibly 175,000 acres still remain. If a stand of 1,000 board feet to the acre is allowed, the amount of southern white-cedar in Virginia would approximate 175,000,000 board feet. The stand of Atlantic white-cedar in North Carolina is considerably less than in Virginia—possibly about 75,000,000 board feet. A rough guess at the total stand of Atlantic white-cedar (1940), including small amounts in Connecticut and Maryland and in swamp regions along the coast below North Carolina, would be 300,000,000 board feet.

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[1] Baker, W. M. FORESTRY FOR PROFIT. N. J. Dept. Conserv. and Devlpmt. 85 pp., illus. 1922.

[2] Akerman, A. THE WHITE CEDAR OF THE DISMAL SWAMP. Va. Geol. Comn. Forestry Pub. 30, 21 pp., illus. 1923.

Production.—In the lumber production figures of the Bureau of the Census the three eastern cedars (Atlantic white-cedar, eastern red-cedar, and northern white-cedar) are grouped together. The production of eastern cedar lumber since 1899 has varied from a maximum of about 126,000,000 board feet in 1910 to a minimum of about 9,000,000 board feet in 1932.[3] The average annual production for the 10-year period 1933 to 1942 was approximately 26,000.000 board feet. In 1942 production was approximately 39,000,000 board feet. The 1943 production was 23,848.000 board feet.

A comparison of the ranges of growth of the three eastern cedars with the 1942 production of "cedar" lumber by States indicates that about 11,000,000 board feet[4] or approximately one-quarter of the reported cut of eastern cedar lumber in that year was Atlantic white-cedar. If it is assumed that this ratio of one-quarter holds good in the previous 10 years, the average annual production of Atlantic white-cedar lumber in recent years would be approximately 6,000,000 board feet.

The following tabulation gives the estimated average annual cut of several Atlantic white-cedar products including lumber for the period 1925–1928 expressed both in terms of cubic content of the logs and in number of board feet that could be sawed from the logs.[5]

	Quantity	
Product:	*Volume of logs (cu. ft.)*	*Lumber equivalent (Bd. ft.)*
Lumber	714, 000	5, 000, 000
Shingles	900, 000	2, 700, 000
Woodenware	714, 000	5, 000, 000
Poles	570, 000	3, 000, 000
Total	2, 898, 000	15, 700, 000

Out of the estimated total cut of 2,898,000 cubic feet for Atlantic white-cedar, Virginia and North Carolina furnished about 1,854,000 cubic feet; New Jersey 490,000 cubic feet; the area south of North Carolina 461,000 cubic feet; and southern New England 93,000 cubic feet. Virginia and North Carolina furnished much larger quantities of logs for lumber, shingles, and woodenware than the other regions. The area south of North Carolina furnished the greater part of the Atlantic white-cedar poles.

The average annual cut of Atlantic white-cedar in recent years except for lumber is undoubtedly much less than shown in the tabulation and is roughly estimated at about one-half the amounts shown for the items other than lumber plus the 6,000,000 board feet for lumber, or a total equivalent to approximately 12,000.000 board feet.

Properties.—The heartwood of Atlantic white-cedar is light brown tinged with red or pink. The thin sapwood is lighter in color than the heartwood. The annual growth rings average about 15 to the inch. The wood is light in weight,[6] moderately soft, weak as a beam or post, and low in shock-resisting ability. It shrinks very little in drying, can be dried with comparative ease, holds paint well, and is easy to work with tools. The grain of Atlantic white-cedar is generally straight and the texture fine and uniform. The wood has a slightly spicy aromatic odor when freshly cut. In resistance to decay the heartwood [7] of Atlantic white-cedar ranks with the most durable woods including the other cedars, redwood, and cypress.

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[3] A year of depression in business.

[4] North Carolina furnished about 7,000,000 board feet, Virginia about 3,000,000 board feet, and New Jersey about 9,000,000 board feet.

[5] KORSTIAN, C. F., and BRUSH, W. D. SOUTHERN WHITE CEDAR. U. S. Dept. Agr. Tech. Bul. 251, 76 pp., illus. 1931.

[6] The average weight of Atlantic white-cedar in a thoroughly air-dry condition (12 percent moisture) is 23 pounds per cubic foot.

Principal uses.—Atlantic white-cedar is used principally for lumber, shingles, tubs and pails, and poles. The lumber goes largely into siding, porch lumber, boxes and crates for fruits and vegetables, boat boards, and tank stock. Smaller quantities are used for fencing (including pickets for woven wire fencing), coffins, and duck decoys. The durability and light weight of Atlantic white-cedar make it well suited for shingles and also for tubs and pails including ice-cream packing tubs, common washtubs, tubs for washing machines, and churns. Atlantic white-cedar is in demand for the smaller sizes of telephone and electric light poles because the trees are straight, have a uniform and moderate taper, and are free from limbs for the greater part of their length and because the wood is durable and light in weight. The poles are sometimes treated with a wood preservative to increase the durability of the sapwood. Small trees, which may be cut in thinning operations to open up dense stands and provide better growing conditions for the remaining trees and the tops of the larger trees cut for various purposes, are used for nursery poles, grape stakes, bean poles, oyster stakes, etc.

In a census of the quantity of wood used in 1940 in the manufacture of various products Atlantic white-cedar and northern white-cedar were grouped together as "eastern white cedar." The consumption of these two woods was reported as 7,733,000 board feet. Of this amount Atlantic white-cedar probably furnished about 2,700,000 board feet (largely in the form of lumber) most of which went into the construction of small boats, tanks, and fruit and vegetable boxes and crates.

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[7] The sapwood of all species has low resistance to decay.

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